

Appln. No. 10/634,428
Amendment filed October 6, 2005
Reply to Office Action dated July 7, 2005

LISTING OF CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Previously Presented) A circuit board having a storage device for storing data relating to a marking material for printing, said circuit board comprising:

at least two ground terminals arranged on said circuit board at two edges thereof that are located on one axis thereof; and

a plurality of terminals arranged on said circuit board, for read/write operations on said data relating to the marking material for printing, said plurality of terminals including a power supply terminal and a control signal terminal,

wherein said at least two ground terminals are not the terminals in closest proximity to said power supply terminal.

2. (Original) A circuit board according to claim 1 wherein said plurality of terminals and said ground terminals are arranged in a single row, with two of said at least two ground terminals being located at the outermost ends of said row.

3. (Original) A circuit board according to claim 1 wherein said plurality of terminals are arranged to form a plurality of rows, with two of said at least two ground terminals being located at the outermost ends of one of said plurality of rows.

4. (Previously Presented) A circuit board according to claim 3 wherein said

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plurality of terminals include a clock signal terminal, said clock signal terminal being located between two of said at least two ground terminals.

5. (Currently Amended) A circuit board according to claim 3 wherein said ~~plurality of terminals include a power supply terminal, two of said at least two ground terminals being located at the outermost ends of a row different than the row that contains~~ said power supply terminal are located in different rows.

6. (Cancelled)

7. (Original) A circuit board according to any one of claims 3-5, wherein said plurality of terminals are arranged at intervals of approximately 1 mm in the direction of formation of said rows.

8. (Previously Presented) A circuit board comprising a storage device for storing data relating to a marking material for printing, said board provided to a marking material for a print cartridge having a substantially rectangular shape, wherein said circuit board comprises:

two ground terminals arranged on said circuit board at two edges thereof along one side thereof; and

a plurality of terminals arranged parallel to one side of said circuit board, and used for storing said data, said plurality of terminals including a power supply terminal and a control signal terminal,

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wherein said ground terminals are not the terminals in closest proximity to said power supply terminal.

9. (Previously Presented) A circuit board according to claim 8 wherein said plurality of terminals form a plurality of rows parallel to one side of said circuit board, and said two ground terminals are arranged at the outermost ends of one of said plurality of rows.

10. (Currently Amended) A circuit board according to claim 9 wherein said plurality of terminals includes a clock signal terminal, ~~a control signal terminal, and a power supply terminal, and~~ said two ground terminals ~~being located at the outermost ends of a row that is different from the row that includes~~ and said clock signal terminal are located in a same row, and that said same row is different from a row in which said power supply terminal is located, ~~and that includes said clock signal terminal.~~

11. (New) A circuit board for a marking material receptacle, comprising:
a storage device for storing data relating to a marking material for printing;
a plurality of terminals arranged on said circuit board, said terminals including a power supply terminal and being arranged in a plurality of rows,

wherein two of said terminals are ground terminals arranged so that a printing device can determine if the marking material receptacle has been installed correctly, where said ground terminals are located at the outermost ends of a row of said terminals that is different from a row that contains said power supply terminal, and

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wherein said ground terminals are not the terminals in closest proximity to said power supply terminal.

12. (New) A circuit board according to claim 11, wherein said power supply terminal is located at the center of the row that contains said power supply terminal.

13. (New) A circuit board according to claim 11 or 12, wherein the terminals in the row containing said ground terminals and the terminals in the row containing said power supply terminal are arranged in alternating fashion.

14. (New) A circuit board according to claim 11 or 12, wherein the row containing said ground terminals contains four terminals and the row containing said power supply terminal contains three terminals,

15. (New) A marking material receptacle comprising a circuit board according to one of claims 11 or 12.

16. (New) A marking material receptacle according to claim 15, wherein said marking material receptacle is one of an ink cartridge and a toner cartridge.

17. (New) A printing system comprising:
a marking material receptacle according to claim 15; and
a printing device that comprises a plurality of contact pins for contacting said ground terminals;

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wherein said printing device measures electrical continuity between said contact pins
and said ground terminals when said marking material receptacle is installed correctly.